

## STATEMENT OF BASIS

*for the issuance of Draft Air Permit # 878-AR-13*

**1. PERMITTING AUTHORITY:**

Arkansas Department of Environmental Quality  
8001 National Drive  
Post Office Box 8913  
Little Rock, Arkansas 72219-8913

**2. APPLICANT:**

Cedar Chemical Corporation  
49 Phillips Road 311  
Helena, Arkansas 72342

**3. PERMIT WRITER:**

Michael H. Watt

**4. PROCESS DESCRIPTION AND SIC CODE:**

SIC Description: Organic Chemical Plant  
SIC Code: 2869

**5. SUBMITTALS: 11/30/01, 12/14/01**

**6. REVIEWER'S NOTES:**

Cedar Chemical Corporation (Cedar) operates an organic chemical manufacturing plant in West Helena, Arkansas. Currently, Cedar has six production units. Units 1 and 5 are used for custom products, Unit 3 is used for production of Diuron, Unit 2 is used for production of Propanil, Unit 4 is used for production of Aciflourfen, and Unit 6 is used for production of Dichloroaniline (DCA). This de minimis change is to allow for installation of a charge vessel between the Sodium Methoxide charge tank and the Unit 5 Coupling Reactor. The vessel is used to more precisely charge the reactor during the Cyclanilide production process. Emissions will vent into the reactor as the reactor is charged. Along with this modification, Cedar is increasing the monthly production limit for the Cyclanilide process. Overall emissions increases are 0.1 pounds per hour of VOC and 0.2 pounds per hour of Methanol. A second de minimus change is to allow for production of Ro-Neet in Unit 1. There are no emissions increases associated with this modification.

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7. **COMPLIANCE STATUS:** The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues

The facility is in compliance at this time.

8. **APPLICABLE REGULATIONS:**

A. Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N)   N  

Has this facility underwent PSD review in the past ( Y / N )     N     Permit # \_\_\_\_\_

Is this facility categorized as a major source for PSD? (Y/N)   N  

≥ 100 tpy and on the list of 28 (100 tpy)? (Y/N)   N  

≥ 250 tpy all other (Y/N)   N  

B. PSD Netting

Was netting performed to avoid PSD review in this permit? (Y/N)     N    

C. Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
Numerous tanks	VOC	NSPS Subpart Kb
SN-21	VOC	NSPS Subpart Dc
Unit 6	VOC	NSPS Subpart VV

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**9. EMISSION CHANGES:**

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 878-AR-12	Air Permit 878-AR-13	Change
PM/PM <sub>10</sub>	3.3	3.3	0
SO <sub>2</sub>	0.2	0.2	0
VOC	74.0	74.0	0
CO	8.0	8.0	0
NO <sub>x</sub>	32.1	32.1	0
Acetic Acid	0.04	0.04	0
Acetic Anhydride	0.34	0.34	0
Br <sub>2</sub>	0.40	0.40	0
Cumene	0.04	0.04	0
1,4-Dichlorobenzene	0.19	0.19	0
Ethylbenzene	0.04	0.04	0
Formaldehyde	0.03	0.03	0
HBr	2.60	2.60	0
Isophorone	0.05	0.05	0
Methanol	7.85	7.85	0
MIBK	0.27	0.27	0
Naphthalene	0.04	0.04	0
Nitric Acid	0.80	0.80	0
Perchloroethylene	1.73	1.73	0

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Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 878-AR-12	Air Permit 878-AR-13	Change
Sulfuric Acid	0.24	0.24	0
Toluene	0.38	0.38	0
Xylene	1.20	1.20	0

## 10. MODELING:

### A. Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

### B. Non-Criteria Pollutants

#### 1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The PAER was deemed by the Department to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Acetic Acid	24.54	2.6994	0.01	Y
Acetic Anhydride	20.88	2.2968	0.09	Y
Br <sub>2</sub>	0.65	0.0715	0.20	N
Cumene	245.79	27.0369	0.40	Y
1,4-Dichlorobenzene	150.32	16.5352	0.15	Y
Ethylbenzene	434.19	47.7609	0.70	Y
Formaldehyde	0.36	0.0396	0.03	Y

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Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
HBr	9.93	1.0923	0.60	Y
Isophorone	28.27	3.1097	1.20	Y
Methanol	262.09	28.8299	13.60	Y
MIBK	204.82	22.5302	32.80	N
Naphthalene	52.43	5.7673	0.40	Y
Nitric Acid	5.16	0.5676	0.21	Y
Perchloroethylene	169.53	18.6483	0.41	Y
Sulfuric Acid	1.00	0.11	0.06	Y
Toluene	188.41	20.7251	25.73	N
Xylene	434.20	47.762	26.84	Y

## 2nd Tier Screening (PAIL)

ISCST3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Br <sub>2</sub>	6.5	1.95	Y
MIBK	2048.2	267.63	Y
Toluene	1884.1	248.46	Y

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**11. CALCULATIONS:**

<b>SN</b>	<b>Emission Factor Source (AP-42, Testing, etc)</b>	<b>Emission Factor and units (lbs/ton, lbs/hr, etc)</b>	<b>Control Equipment Type ( if any)</b>	<b>Control Equipment Efficiency</b>	<b>Comments (Emission factor controlled/uncontrolled, etc)</b>
01	Mass Bal.	-	Scrubber		
02	Mass Bal.	-	Scrubber		
03	Mass Bal.	-	Scrubber		
04	Mass Bal.	-	Scrubber		
05	Mass Bal.	-	Scrubber		
06	Mass Bal.	-	Scrubber		
07	Mass Bal.	-	Scrubber		
08	Mass Bal.	-	Scrubber		
10	Mass Bal.	-	Scrubber		
11	Mass Bal.	-	Scrubber		
19	AP-42	Natural gas Combustion	-	-	
21	AP-42	Natural gas Combustion	-	-	
32	Tanks	-	-	-	
34	Tanks	-	-	-	
35	Tanks	-	-	-	
36	Tanks	-	-	-	
37	Tanks	-	-	-	
38	Tanks	-	-	-	

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SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
42	Tanks	-	-	-	
43	Tanks	-	-	-	
44	Tanks	-	-	-	
45	Tanks	-	-	-	
46	Tanks	-	-	-	
52	Tanks	-	-	-	
54	Tanks	-	-	-	
59	Tanks	-	-	-	
60	Tanks	-	-	-	
61	Tanks	-	-	-	
69	Tanks	-	-	-	
70	Tanks	-	-	-	

**12. TESTING REQUIREMENTS:**

This permit requires no stack testing.

**13. MONITORING OR CEMS**

There are no parameters that must be monitored with CEMs or other monitoring equipment.

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#### 14. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
01a	Scrubbing Media	≥2.0% by weight	Daily	N
01c	Scrubbing Media	≤9.0% by weight	Daily	N
01d	Scrubbing Media	≥5.0% by weight	Daily	N
02a	Scrubbing Media	≤17.0% by weight	Daily	N
01b and 02b	Scrubbing Media	≥1.0% by weight	Daily	N
04a	Scrubbing Media	≥5.0% by weight	Daily	N
04b	Scrubbing Media	≥8.5 pH	Daily	N
05	Scrubbing Media	≥2.0 % by weight	Daily	N
05	Scrubbing Media	≤1,500 ppm Perchloroethylene	Daily	N
06a and 06d	Scrubbing Media	≥0.5% by weight	Daily	N
06c	Scrubbing Media	≥8.5 ph	Daily	N
07a and 07b	Scrubbing Media	≥0.5% by weight	Daily	N
08	Scrubbing Media	≥0.5% by weight	Daily	N
10	Scrubbing Media	≥85% of total volume	Daily	N
11	Scrubbing Media	≥5.0% by weight	Daily	N



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SN	Recorded Item	Limit (as established in permit)	Frequency *	Report (Y/N)**
21	NSPS Dc Information	See Specific Condition #58	Monthly	N
Tanks	NSPS Kb Information	See Specific Condition #59	Monthly	N
Unit 6	NSPS VV Information	See Specific Condition #60	Monthly	N

**15. OPACITY**

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
19	10%	Dept. Guidance	None
21	10%	Dept. Guidance	None

**16. DELETED CONDITIONS:**

There were no Specific Conditions deleted for the current permitting action.

**17. VOIDED, SUPERSEDED OR SUBSUMED PERMITS**

List all active permits for this facility which are voided/superseded/subsumed by issuance of this permit.

Permit #
878-AR-12

**18. CONCURRENCE BY:**

The following supervisor concurs with the permitting decision:

\_\_\_\_\_

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*Thomas Rheaume, P.E.*